77TH CONGRESS } HOUSE OF REPRESENTATIVES { DOCUMENT
1st Session } { No. 129

HOSKINS CREEK, VA.

LETTER

FROM

THE ACTING SECRETARY OF WAR

TRANSMITTING

A LETTER FROM THE CHIEF OF ENGINEERS, UNITED STATES ARMY, DATED NOVEMBER 22, 1940, SUBMITTING A REPORT TOGETHER WITH ACCOMPANYING PAPERS AND AN ILLUSTRATION, ON REEXAMINATION OF HOSKINS CREEK, VA., REQUESTED BY RESOLUTION OF THE COMMITTEE ON RIVERS AND HARBORS, HOUSE OF REPRESENTATIVES, ADOPTED DECEMBER 26, 1939

FEBRUARY 27, 1941.—Referred to the Committee on Rivers and Harbors and ordered to be printed with an illustration

WAR DEPARTMENT,
Washington, February 25, 1941.

The SPEAKER OF THE HOUSE OF REPRESENTATIVES.

DEAR MR. SPEAKER: I am transmitting herewith a report dated November 22, 1940, from the Chief of Engineers, United States Army, on reexamination of Hoskins Creek, Va., requested by resolution of the Committee on Rivers and Harbors, House of Representatives, adopted December 26, 1939, together with accompanying papers and illustration.

The Bureau of the Budget has been consulted and advises that authorization of the modified project recommended by the Chief of Engineers would not be in accord with the program of the President at this time.

Sincerely yours,

ROBERT P. PATTERSON,
Acting Secretary of War.

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WAR DEPARTMENT,
OFFICE OF THE CHIEF OF ENGINEERS,
Washington, November 22, 1940.

The CHAIRMAN, COMMITTEE ON RIVERS AND HARBORS,
House of Representatives, Washington, D. C.

MY DEAR MR. CHAIRMAN: 1. The Committee on Rivers and Harbors of the House of Representatives, by resolution adopted December 26, 1939, requested the Board of Engineers for Rivers and Harbors to review the reports on Hoskins Creek, Va., submitted in River and Harbor Committee Document No. 8, Seventy-fifth Congress, first session, and previous reports, with a view to determining if the existing project should be modified in any way at this time. I enclose the report of the Board in response thereto.

2. After full consideration of the reports secured from the district and division engineers, the Board recommends modification of the authorized project for Hoskins Creek, Va., to provide a channel 10 feet deep from that depth in Rappahannock River to the highway bridge ¾ mile above the mouth, with widths of 100 feet in the river and 80 feet inside the creek, suitably widened at bends, and a turning basin of the same depth, 250 feet long and 200 feet wide; all substantially in accordance with the plan of the district engineer, at an estimated first cost of $16,000, with annual maintenance of $1,000 in addition to that now required; subject to the provisions that local interests furnish free of cost to the United States all lands, easements, and rights-of-way and spoil disposal areas for the initial work and for subsequent maintenance, when and as required, and hold and save the United States free from claims for damages resulting from the improvement.

3. After due consideration of these reports, I concur in the views and recommendations of the Board.

Very truly yours,

J. L. SCHLEY,
Major General,
Chief of Engineers.

REPORT OF THE BOARD OF ENGINEERS FOR RIVERS AND HARBORS

WAR DEPARTMENT,
THE BOARD OF ENGINEERS FOR RIVERS AND HARBORS,
Washington, D. C., October 1, 1940.

Subject: Hoskins Creek, Va.
To: The Chief of Engineers, United States Army.

1. This report is in response to the following resolution, adopted December 26, 1939:

Resolved by the Committee on Rivers and Harbors of the House of Representatives, United States, That the Board of Engineers for Rivers and Harbors created under section 3 of the River and Harbor Act, approved June 13, 1902, be, and is hereby requested to review the reports on Hoskins Creek, Virginia, submitted in River and Harbor Committee Document Numbered 8, Seventy-fifth Congress, first session, and previous reports, with a view to determining if the existing project should be modified in any way at this time.

2. Hoskins Creek is a small right-bank tributary that enters Rappahannock River 66 miles below Fredericksburg and 42 miles upstream from Chesapeake Bay. In the lower 3½ miles natural widths vary

from 80 to 300 feet with limiting depths of 3 to 4 feet. The mean tidal range is 1.6 feet. Federal improvements have provided channels 12 feet deep in Rappahannock River to Fredericksburg and 8 feet deep in Hoskins Creek to the highway bridge, 1.2 miles above deep water in Rappahannock River. Total cost for the improvement of Hoskins Creek, all for new work completed in 1939, has been $19,860, including $500 contributed by local interests. The approved estimate for annual cost of maintenance is $1,500.

3. The improved portion of Hoskins Creek serves approximately 250 square miles of fertile farm and timberland. The total population is 8,000 with 30 small villages and Tappahannock, a county seat of 500 residents, lying on the right bank of the Rappahannock River one-half mile above the mouth of the creek. Lumber, cross ties, pulpwood, and cordwood are cut in the timberlands while corn, wheat, and tomatoes are produced on the cleared lands and packing of farm products is active. The area is served by improved roads, but the nearest railroad is 42 miles distant. The creek serves a growing commerce with receipts of fertilizer, building materials, and empty cans while shipments consist principally of timber products. In the 11 months following completion of the existing project channel in January 1939 commerce on Hoskins Creek increased from less than 700 tons to over 19,000 tons. This latter volume was moved in 100 round trips by barges and motor vessels on drafts up to 11 feet. Twenty local and many visiting recreational craft also use the waterway. Public and private landings along the creek are suitably equipped for handling present and prospective commerce.

4. Navigation and pulpwood interests, together with local lumber, farming, and other business interests, all desire modification of the existing project to provide a 10-foot depth throughout the project extent and greater widths inside the creek. They contend this is needed to permit larger loaded vessels to navigate the channel at all stages of tide and to eliminate delays and existing hazards to navigation. They offer to provide required spoil areas and necessary land for the desired improvement.

5. The district engineer estimates that additional dredging necessary to provide a continuous project depth of 10 feet with widths of 100 feet through the entrance and thence 80 feet inside the creek to the highway bridge, with increased widths and easing at bends, together with the existing turning basin area, will cost $15,400. Additional annual maintenance is estimated at $1,000 and the annual carrying charges would be $1,700. The increased depth will permit vessels to load to full capacity, reducing transportation costs, time, and damages, with annual benefits estimated at $5,300. The district engineer recommends the improvement, subject to cooperation by local interests to the extent of providing land required for widening and easing at bends and spoil-disposal areas. The division engineer concurs.

VIEWS AND RECOMMENDATIONS OF THE BOARD OF ENGINEERS FOR RIVERS AND HARBORS

6. The Board concurs generally with the reporting officers. The improvement of Hoskins Creek already made has been closely followed by a substantial increase in water-borne commerce. The fertilizer

and other materials required in the area and the timber products and processed foods produced there are well suited to movement by water, and a large volume of traffic is in prospect over many years. The substantial economies already enjoyed can be materially increased by further improvement to permit more economical loading of the vessels in general use in the area. A depth of 10 feet will be adequate for the great majority of these vessels. The Board recommends modification of the authorized project for Hoskins Creek, Va., to provide a channel 10 feet deep from that depth in Rappahannock River to the highway bridge three-fourths mile above the mouth, with widths of 100 feet in the river and 80 feet inside the creek, suitably widened at bends, and a turning basin of the same depth, 250 feet long and 200 feet wide; all substantially in accordance with the plan of the district engineer, at an estimated first cost of $16,000, with annual maintenance of $1,000 in addition to that now required; subject to the provisions that local interests furnish free of cost to the United States all lands, easements, and rights-of-way and spoil-disposal areas for the initial work and for subsequent maintenance, when and as required, and hold and save the United States free from claims for damages resulting from the improvement.

For the Board:

THOMAS M. ROBINS,
Brigadier General, Corps of Engineers,
Senior Member.

REEXAMINATION OF HOSKINS CREEK, VA.

SYLLABUS

The district engineer reports that modification of the existing project for Hoskins Creek by deepening and widening the present channel would result in material savings by eliminating lost-time costs, reducing damages to boats, permitting greater loading of boats, increasing general commerce, and creating considerable traffic in railroad ties now nonexistent because of the inadequate depth. The estimated cost of this added improvement is $15,400 for new work and $1,000 annually for maintenance. He considers the improvement to be justified and recommends that the project be modified to provide a channel 10 feet deep from that depth in the Rappahannock River to the highway bridge three-fourths mile upstream of the mouth with widths of 100 feet in the river and 80 feet inside the creek, with greater widths at the bends, and a turning basin of the same depth 250 feet long and 200 feet wide near the head of the project, provided that local interests furnish the land required for widening at the bends and suitable disposal areas for the original and subsequent maintenance dredging.

WAR DEPARTMENT,
UNITED STATES ENGINEER OFFICE,
Washington, D. C., April 1, 1940.

Subject: Review of reports on Hoskins Creek, Va.
To: The Division Engineer, South Atlantic Division, Richmond, Va.

1. *Authority.*—The following resolution was adopted December 26, 1939:

Resolved by the Committee on Rivers and Harbors of the House of Representatives, United States, That the Board of Engineers for Rivers and Harbors created under section 3 of the River and Harbor Act, approved June 13, 1902, be, and is hereby requested to review the reports on Hoskins Creek, Virginia, submitted in River and Harbor Committee Document Numbered 8, Seventy-fifth Congress, first session, and previous reports, with a view to determining if the existing project should be modified in any way at this time.

Authority for the reports submitted in the above-named document is contained in section 12 of the River and Harbor Act approved September 22, 1922.

2. *Description.*—Hoskins Creek, Va., is a tributary on the right bank of the Rappahannock River, 42 miles upstream of its mouth at Chesapeake Bay and one-half mile downstream of the town of Tappahannock, Va. The waterway lies in Essex County, in the Tidewater section of Virginia, and is by water 66 miles from Fredericksburg, Va., 173 miles from Baltimore, Md., and 102 miles from Norfolk, Va. The creek and vicinity are shown on United States Coast and Geodetic Survey Chart No. 535, Virginia, Aylett and Tappahannock Quadrangles of the United States Geological Survey, and on aerial photograph [1] B–195–15 Ph. and drawing B–195–14 which accompany this report.

3. Hoskins Creek is about 16 miles in length, the downstream 8 miles being tidal. The natural channel is narrow and meanders between wide and marshy shores except for short sections where high banks extend to the water. The creek drains about 30 square miles of relatively low terrain and the run-off has little effect upon water stages. From the highway bridge, three-fourths mile upstream of the mouth, to Croxton Mill, 2¾ miles farther upstream, widths vary from 80 to 300 feet with limiting depths of from 3 to 4 feet.

4. The section of the creek under consideration in this report is that section downstream of the highway bridge which has been improved under the existing project. A channel for a distance of about 6,300 feet was dredged in January 1939 from deep water in the Rappahannock River to the highway bridge. The controlling depth in the entrance channel at present is 9.6 feet for a width of 100 feet and 8.4 feet for a width of 60 feet inside the creek. The plane of reference is mean low water. The mean range of tide is about 1.6 feet in the improved section, but additional variations of 1 to 2 feet are caused by wind conditions. The mouth of the creek is exposed principally to storms from the north and east, which, however, do not have a long unobstructed sweep.

5. *Tributary area.*—The tributary area of about 250 square miles, comprises the greater part of Essex County and parts of Richmond and King and Queen counties. The town of Tappahannock, with a population of approximately 500, is the county seat of Essex County, and the commercial and banking center for the entire section. About 30 small villages are located in the surrounding hinterland, which has a total population of about 8,000. The area is well served by improved secondary roads and by routes 17, Tidewater Trail, Fredericksburg to Newport News, Va., and 360, Richmond, Va., to Potomac River and Chesapeake Bay points. Railroad facilities are available at Milford and Richmond, Va., 42 and 46 miles distant by road, respectively, to the west, and at Fredericksburg, Va., 48 miles to the north.

6. The principal industries of the area are timber production, farming, and the packing of farm products. The principal farm crops are corn, wheat, and tomatoes. About 60 percent of the tributary area is in timber, a large amount of which is of marketable size. Timber products consist of lumber, ties, pulpwood, and cordwood. Large

[1] Not printed.

numbers of railroad ties have been shipped from the area by water and truck. However, during the past few years no ties have been shipped from Hoskins Creek and only about 30,000 annually from Tappahannock. These shipments were from the old steamboat wharf which is owned and used by the local lumber concern making the tie shipments. It is about 700 feet long and is not open to the public except by special arrangement. This wharf is utilized to practicable capacity by the owner, and is not available for other service. Large quantities of pulpwood are trucked annually from the interior sections of the tributary area to shipping points on the Mattaponi River. There are several sawmills in the area. Two, both of which operated to capacity last year, are located on the improved section of the creek. The larger has an output of approximately 10,000 M feet board measure, and the other somewhat less. Other enterprises include 8 vegetable canneries, one of which is on Hoskins Creek and another at Tappahannock, several pickle-packing stations, 3 planing mills at Tappahannock, and a number of gristmills.

7. *Bridges.*—There are no bridges over the section of the creek being considered in this report. A highway bridge, with a fixed channel span, on routes 17 and 360, crossing Hoskins Creek, is located three-quarters of a mile upstream of the mouth at the head of general navigation. The channel clearances are as follows: Horizontal, 34 feet; vertical, 10 feet above mean low water, and 8.4 feet above mean high water. Another highway bridge, with fixed channel span, is located at Croxton Mill, 3½ miles upstream of the mouth. The channel clearances are as follows: Horizontal, 21 feet; vertical, 5 feet above mean low water, and 3.4 feet above mean high water. No alterations in these bridges would be required, as they are upstream of the section of the creek being considered for improvement.

8. *Prior reports.*—A survey report on Hoskins Creek was submitted on August 20, 1936, printed in the River and Harbor Committee of the House of Representatives Document No. 8, Seventy-fifth Congress, first session, and is the authority for the existing project.

9. *Existing project.*—The existing project was adopted by the River and Harbor Act of August 26, 1937, and provides for a channel 8 feet deep from that depth in the Rappahannock River to the highway bridge three-fourths of a mile upstream of the mouth of the creek, with widths of 100 feet in the river and 60 feet inside the creek, and a turning basin of the same depth 250 feet long and 200 feet wide near the head of the improved channel. The existing project was completed in January 1939.

10. *Local cooperation.*—The existing project prescribed conditions of local cooperation, viz; that local interests contribute $500 toward the initial cost of the improvement, provide and maintain adequate public terminals open to all on equal terms, and furnish, free of cost to the United States, suitable spoil-disposal areas for the original dredging and subsequent maintenance as required. These terms are being complied with. The construction of the public terminal is nearing completion. The town of Tappahannock has contributed the $500. Essex County and the Virginia State Highway Department are providing the public terminal and approach road at a cost to each of $3,400 and $4,800, respectively, a total of $8,700 from all sources.

11. *Other improvements.*—The United States Lighthouse Service has installed and maintains aids to navigation on the improved channel.

12. *Terminal and transfer facilities.*—A privately owned bulkhead landing, wharf, and chute for loading lumber near the head of the project, and a small public landing near the mouth of the creek serve present navigation and commerce. Use of the wharf and bulkhead landing are available to the public by special arrangement. The pile and timber construction on the new substantial public terminal has been completed and the backfill and approach road are to be completed shortly. This terminal will have an 80-foot water frontage, and with its completion terminal and transfer facilities will be adequate for all present and prospective commerce. Adjacent thereto is a 4-acre tract owned by Essex County, which is available for storage and industrial purposes.

13. *Improvement desired.*—A public hearing was held at Tappahannock, Va., on February 15, 1940, which was attended by 18 persons representing the town of Tappahannock, Essex County, the State highway department, navigation and pulpwood interests, and local lumber, farming, and other business interests. All favored modification of the existing project. Several letters have been received urging further improvement of the channel. Minutes [1] of the hearing and copies of pertinent communications [1] are attached to this report. Investigation has been made to check the data submitted, the condition of the channel, and probable commerce and benefits to result from the proposed improvement.

14. Proponents of the improvement desire that the existing project be modified so as to provide a 10-foot depth throughout the project area and greater widths inside the creek. Responsible lumber shippers and navigators affirm that most of the timber carriers operating in the Chesapeake Bay area draw 10 feet or more loaded, and that lesser-draft boats are neither desirable nor available because their limited capacity makes their use economically impractical for timber shipments. They maintain that the lumber carriers, when fully loaded, can navigate the present 8-foot channel only on high water, and even then usually drag bottom and frequently run aground at the sharp bends in the channel. Navigators affirm that at times westerly winds keep the water in the creek at low levels and that loaded carriers have been detained in the creek for several days at a time because of this condition. They say that owners are hesitant to charter their boats for use on the creek because of the possibility of damage by dragging and grounding and of being subjected to losses necessitated by delays while waiting for high water. Local lumber dealers advise that because of these conditions and the uncertainty of water transportation, they sometimes have to make deliveries overland which could have been shipped by water at less cost if favorable channel conditions prevailed. They say that these combined factors make the cost of distribution greater than it would be if the channel were further improved. Mention was made of a channel cut straight in across the marsh area, but it was conceded that widening the existing channel might be more economical and at the same time retain the extensive fast land-water frontage on the present waterway.

15. State highway engineers say that a steel barge, drawing 10 to 11 feet loaded, brings occasional shipments into the creek, but is forced to unload partly elsewhere before entering, and that Hoskins Creek would become a central road oil-distributing point for a large area if an adequate channel and storage facilities were provided.

[1] Not printed.

They also assert that large quantities of gravel are used for road purposes in the area; that the supply of local gravel is limited and of a secondary quality; that many contracts go to the local concerns at present because of the unfavorable influence of channel conditions on bidders contemplating delivery by water; and that, with an adequate channel for barge traffic, prices on gravel by water delivery would in general be lower than those of local gravel concerns, and that the State would benefit by obtaining lower prices and better gravel through water delivery competition.

16. Two large lumber companies have indicated that they intend to ship railroad ties from the creek to Albany, New York City, Philadelphia, and other ports, if a 10-foot channel be provided. One has stated that in former years it shipped 30,000 to 40,000 ties annually from the long wharf at Tappahannock, but that it was forced to terminate this activity because of loading difficulties.

17. Local officials have gone on record as favoring the proposed improvement and indicate their desire to aid wherever possible. They state that they furnished disposal areas and contributed $500 toward the original improvement, and are providing public terminal facilities at an additional cost of $8,200. They assert that disposal areas for the proposed dredging and future maintenance and any land required for widening the bends will be furnished free of cost to the United States, but that due to their limited finances they are unable to make any additional cash contribution.

18. *Commerce.*—In the short time since completion of the existing project, commerce on Hoskins Creek has increased remarkably from less than 700 to 19,444 tons. The commerce shown under "Present commerce" in the following table represents only that for the last 11 months in 1939, as the existing project was not completed until January of that year. It is estimated by this office that an increase of 14,656 tons of commerce valued at $199,855 will result from the proposed additional improvement. Present and prospective commerce are summarized as follows:

Commodity	Present commerce		Prospective commerce	
	Tons	Value	Tons	Value
Internal receipts:				
Chemicals: Fertilizer	151	$4,077	900	$24,300
Nonmetallic minerals:				
Cement			1,800	15,966
Coal			300	1,800
Gravel	1,410	2,820	4,000	8,000
Lime			400	1,600
Tar, road	600	6,900	1,100	12,650
Ores, metals, and manufactures of: Cans, empty, in cases	100	14,600	200	29,200
Unclassified:				
Building materials			500	13,000
Miscellaneous freight			500	20,000
Total	2,261	28,397	9,700	126,516
Internal shipments:				
Vegetable food products: Tomatoes, canned			400	35,200
Wood and paper:				
Lumber	17,183	137,464	18,000	144,000
Cross-ties, untreated			6,000	60,000
Total	17,183	137,464	24,400	239,200
Grand total	19,444	165,861	34,100	365,716

19. *Vessel traffic.*—Commercial traffic during the past year consisted of about 100 round trips by barges in tow and motor vessels. Eighty of these were carriers transporting lumber from the creek. They vary from 100 to 140 feet in length and draw 10 to 11 feet with capacity cargoes. Approximately 20 pleasure boats are harbored on the waterway, and many transients utilize it intermittently during the boating season.

20. *Difficulties attending navigation.*—Present channel dimensions are adequate for the pleasure traffic, but the movements of barges and general freighters would be greatly facilitated by the execution of the proposed improvement. These boats must frequently load to less than capacity in order to be able to leave the creek. The narrowness of the channel at the sharp bends at the mouth and inside the creek combined with current action make maneuvering difficult for the larger boats when loaded and frequently cause them to run into the banks. As these craft generally draw in excess of 10 feet, they scrape bottom in many places in the channel even on high water. Barges most economical to use for tie and lumber transportation draw 11 to 12 feet loaded, are about 225 feet long, and carry approximately 1,000 tons. As they cannot operate efficiently even on high water in less than a 10-foot channel, they refrain from engaging in business on the creek.

21. *Survey.*—A hydrographic survey of the area, including probings in the creek and across the offshore bar in the Rappahannock River, was made in 1936. The most recent surveys of the improved channel were made inside the creek in January 1939, and in the entrance channel in March 1940. The surveys were controlled by a local triangulation system. Drawing B–195–14 shows data and physical features of the locality.

22. *Plan of improvement.*—The channel inside the creek appears to have obtained a definite regimen conforming with the dimensions of the existing project, and it is believed that this channel would readily adjust itself to the proposed changes. The entrance channel was dredged through virgin flats in 1939 and is more exposed to the currents, drifts, and storms of the Rappahannock River. This channel was redredged in March 1940 to greater dimensions than provided for in the existing project for the purpose of stabilizing the channel at project dimensions.

23. It is considered that a 10-foot entrance channel could be provided and maintained now that the side slope grade has been flattened and the danger of shoaling from sliding banks reduced. The construction of jetties at the mouth of the creek would, no doubt, decrease the frequency of maintenance dredging, but, on the other hand, the cost of such construction together with the maintenance that would still be required would be high when compared with the expense of more frequent dredging, so that jetty construction is neither deemed justified nor warranted by existing physical conditions.

24. The proposed improvement will require dredging over a considerable portion of the existing project. At the bends where widening is required some dredging of the marsh and fast land will be necessary. The material to be removed is approximately 50 percent mud, 40 percent sand, and 10 percent clay and gravel. The work can be most economically done by hydraulic plant, and the material can be deposited in the areas formerly used, viz; marshes adjacent

to the creek and on the flat in the Rappahannock River downstream of the mouth of the creek, all within practical pumping distance for hydraulic dredges.

25. The estimated cost of the improvement is as follows:

To dredge a channel 10 feet deep at mean low water, 100 feet wide through the entrance bar in the Rappahannock River, and 80 feet wide inside the creek to the highway bridge, aggregating 6,400 linear feet, with increased widths at the bends and a turning basin of the same depth 250 feet long by 200 feet wide in the upstream section, with allowances for side slopes and 1 foot overdepth dredging: 70,000 cubic yards of dredged material at $0.22	$15,400
Total	15,400

It is estimated that maintenance dredging would be required in the entrance channel at 3-year intervals and inside the creek at 5- to 6-year intervals, and that the added annual maintenance cost for the modified project would be $1,000, over and above the current estimate of $1,500 per annum for the maintenance of existing project.

26. *Discussion.*—In the short time of 14 months since completion of the existing project, a substantial commerce has developed on Hoskins Creek, and as time passes and the new public terminal comes into use, commerce will continue to increase particularly in miscellaneous freight. The experience gained in using the channel of the existing project dimensions has clearly shown that deepening and widening will increase commerce, effect substantial economies, increase the general benefits, and greatly facilitate present commerce and insure greater economic returns from the present investment.

27. This office considers that the estimates of prospective commerce as presented at the public hearing and as checked in the field are reasonably conservative. The State of Virginia is constantly extending improvements of its highway system by hard-surfacing existing roads and building new ones. There is no stone or first-class gravel for modern highway construction available in the area. Consequently, it is believed that most of the gravel used for local road work will be imported when adequate channels are provided. The timber resources in the tributary area are sufficiently great to allow increased shipments being made for many years, provided adequate water-shipping facilities are available. While this applies particularly to ties and lumber, other commodities would also be favorably affected.

28. Several years ago one of the companies now interested in shipping ties from Hoskins Creek to northern markets shipped ties from the long narrow wharf extending over the offshore flats in the Rappahannock River, but wharf rental costs, loading difficulties, and the expense of its maintenance made such operations too costly to continue. This company then tried lightering ties from Hoskins Creek to large barges anchored in the Rappahannock River, but after 1 year's experience found this impracticable also as the cost averaged 10 cents a tie over that for loading at a suitable wharf. With the cessation of activities due to the depression, there have been no shipments of ties from the creek since that time. It is practically assured that the water shipment of railroad ties will be revived if the proposed improvement of the creek is provided, and it is estimated that annually 60,000 ties would go to northern markets from Hoskins Creek. With

the resumption of tie replacements by the railroads, a local lumber company is now shipping anually about 30,000 railroad ties from the long wharf on the Rappahannock River at Tappahannock but is using the wharf exclusively for its own business.

29. Water-borne lumber business is highly competitive with interstate trucking, particularly as to time of delivery but not as to transportation costs. This is the case because under present-day business practices, local lumber dealers maintain very small inventories and rely upon prompt and dependable deliveries to fill orders. Definite scheduling of the time of delivery by water transportation therefore is now essential. The power freighter and towed barge make this possible. In the case of Hoskins Creek, the shallow depths of the existing project prevent capacity loadings and cause delays in waiting for sufficiently high tidal stages to make departures, thus hindering the expansion of the lumber industry because of the uncertainty of delivery time.

30. It is estimated that improvement of the channel will result in determinable monetary savings as follows:

(*a*) Reduction of repair damages to barges and freighters by reason of narrow channel and shoal depths	$600
(*b*) Elimination of losses occasioned by vessels waiting for high water to leave creek, 20 days at $50 per day	1,000
(*c*) Savings in transportation charges on 3,000 tons of gravel at 5 cents a ton	150
(*d*) Savings in transportation charges on 300 tons of road oil at $1 a ton	300
(*e*) Savings in transportation charges on 200 M feet board measure of lumber delivered overland due to inability to make capacity shipments by water within time required at $1	200
(*f*) Savings in transportation charges on 60,000 railroad ties with deeper channel at 5 cents	3,000
Total savings	5,250

31. The foregoing statement indicates direct monetary savings of $5,250 and much of these are classed as general benefits as the bulk of the commerce would be interstate and substantial in amount. Some intangible local benefits will also accrue through increased business activity at Tappahannock and in the tributary area by increased and stabilized employment in the timber industry.

32. The estimated economic cost of the improvement is as follows:

(*a*) Federal investment:	
(1) Estimated expenditure by Engineer Department: dredging	$15,400
(2) Total Federal investment	15,400
(*b*) Federal carrying charges:	
(1) Interest at 3½ percent on item (*a*) (2), $15,400 at 3½ percent	539
(2) Amortization of obsolescence and depreciation in 50 years at 3½ percent compounded, $15,400 at 0.76 percent	117
(3) Channel maintenance	1,000
(4) Total Federal carrying charges	1,656
(*c*) Non-Federal investment:	
(1) Value of land for disposal areas	400
(2) Value of land dredged in widening bends	200
(3) Total non-Federal investment	600

(*d*)	Non-Federal carrying charges:	
	(1) Interest at 4½percent on item (*c*) (3), $600 at 4½ percent	27
	(2) Amortization of obsolescence and depreciation in 50 years at 4½ percent compounded on item (*c*) (3), $600 at 0.56 percent	4
	(3) Total non-Federal carrying charges	31
(*e*)	Total carrying charges (*b*) + (*d*)	1,687

With estimated annual monetary savings of $5,250 and estimated annual carrying charges of $1,687, the benefit cost ratio is 3.1 to 1.

33. The State, county, and town of Tappahannock have already spent or are spending about $8,700 for improvements in connection with the Hoskins Creek project, and it is considered that this constitutes adequate contribution and that no further local cooperation should be required other than the furnishing of land for widening at bends in the channel and for disposal areas for new and maintenance dredging as required.

34. *Special subjects.*—It is not practicable to coordinate the proposed improvement with projects for terminal construction, power development, flood control, irrigation, land reclamation, pollution abatement, wildlife conservation, or other works with a view to decreasing the cost to the United States.

35. *Conclusion.*—Further improvement as contemplated in this report would facilitate and increase the movement of water commerce and would result in large shipments of lumber and railroad ties from the creek. Material general and local benefits would result. The annual direct monetary savings alone are over three times the estimated annual cost of the proposed improvement. It is concluded that this additional improvement of Hoskins Creek by the United States is justified, subject to prescribed conditions of local cooperation.

36. *Recommendation.*—It is therefore recommended that the project for Hoskins Creek be modified to provide a channel 10 feet deep from that depth in the Rappahannock River to the highway bridge three-fourths of a mile above the mouth, with widths of 100 feet in the river and 80 feet inside the creek, with additional widening at the bends, and a turning basin of the same depth 250 feet long and 200 feet wide near the head of the project, provided that local interests furnish the land required for widening at the bends and suitable disposal areas for the original and subsequent maintenance dredging. The estimated cost of the new work is $15,400, and the estimated additional annual maintenance cost of the modified project is $1,000. Funds for the initial dredging should be appropriated in one allotment.

R. S. THOMAS,
Colonel, Corps of Engineers,
District Engineer.

[First endorsement]

OFFICE, DIVISION ENGINEER,
SOUTH ATLANTIC DIVISION,
Richmond, Va., May 25, 1940.

To the CHIEF OF ENGINEERS, UNITED STATES ARMY.

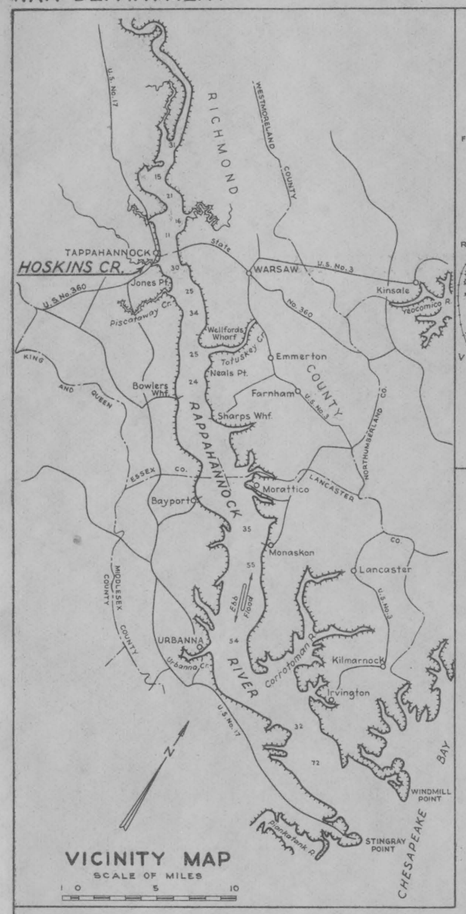
I concur in the recommendation of the district engineer.

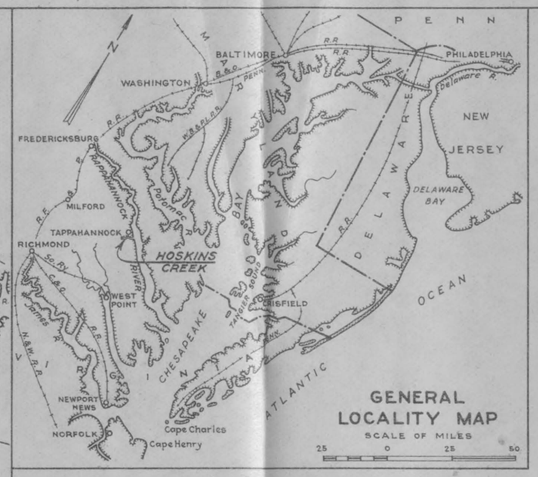
JARVIS J. BAIN,
Colonel, Corps of Engineers,
Division Engineer.

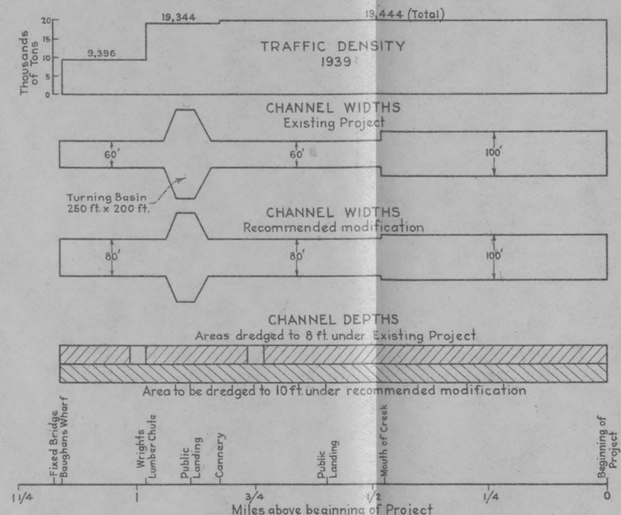
○

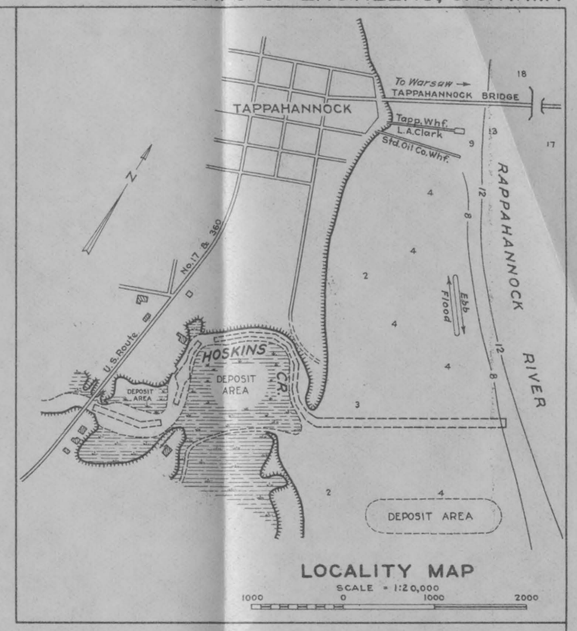
WAR DEPARTMENT

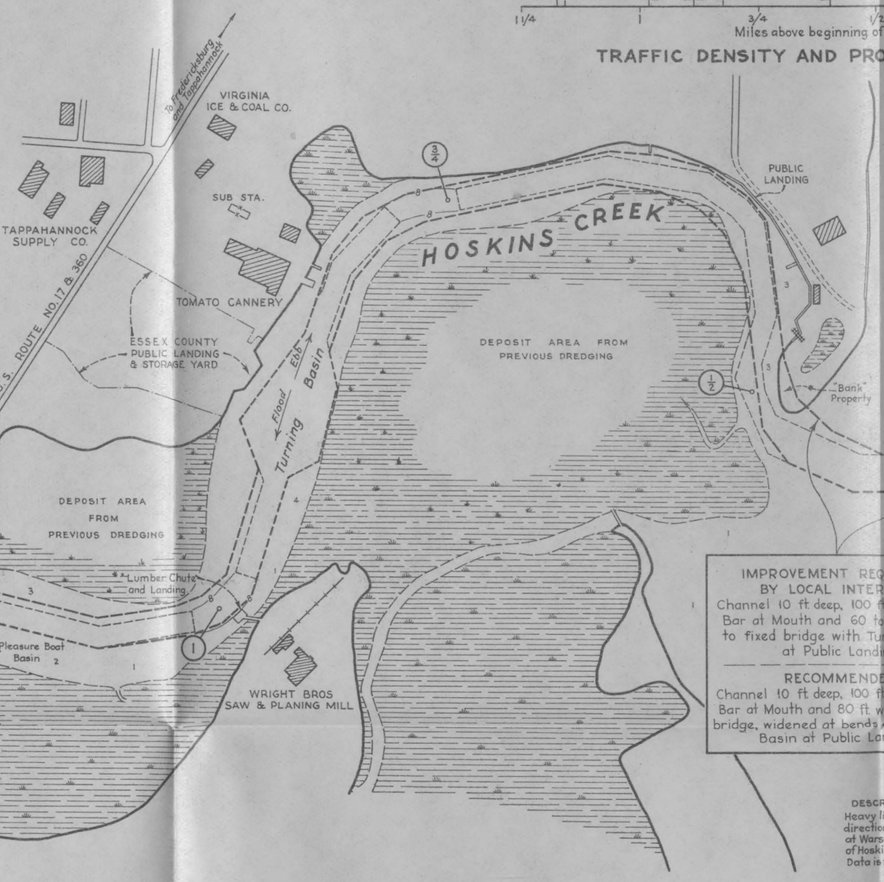
CORPS OF ENGINEERS, U.S. ARMY









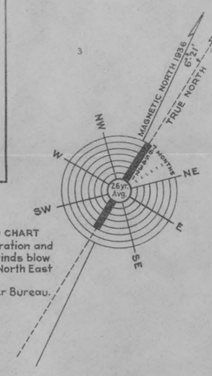


IMPROVEMENT REQUESTED BY LOCAL INTERESTS

Channel 10 ft deep, 100 ft wide across Bar at Mouth and 60 to 80 ft. wide to fixed bridge with Turning Basin at Public Landing.

RECOMMENDED

Channel 10 ft deep, 100 ft wide across Bar at Mouth and 80 ft wide to fixed bridge, widened at bends with Turning Basin at Public Landing.



DESCRIPTION OF WIND CHART
Heavy lines indicate duration and direction from which winds blow at Warsaw, Va. (6 miles North East of Hoskins Creek).
Data is from U.S. Weather Bureau.

NOTES:
Soundings are in feet at Mean Low Water.
Mean range of tide = 1.6 feet
8 ft. depth contour shown thus: 8
Channel Miles shown thus: 0 1/2
Existing Project maintained to 8 ft. depth shown thus:
Recommended modification shown thus:

REVISIONS

May 14, 1940	Turning basin moved channelward 30 feet to line parallel to and 40 feet off public landing.

HOSKINS CREEK
VIRGINIA

TO ACCOMPANY REVIEW REPORT OF SURVEY MADE IN COMPLIANCE WITH THE REQUIREMENTS OF RIVER AND HARBOR ACT APPROVED SEPTEMBER 22, 1922

IN ONE SHEET SCALE = 1 : 4800

U.S. Engineer Office, Washington, D.C. April 1, 1940

SUBMITTED: Civil Engineer

APPROVED: Colonel, Corps of Engineers

RECOMMENDED: Principal Engineer

TRANSMITTED WITH REPORT DATED APRIL 1, 1940

DRAWN BY: R.C.B-A.B.C-T.L.W. FILE No. B-195-14

B-195-14

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